-------------------------------------------------------------------------

-- CREATE A DATABASE AND TABLES

-------------------------------------------------------------------------

CREATE DATABASE Project;

USE Project;

CREATE TABLE Realtors (

realtor\_id int NOT NULL IDENTITY(1,1) PRIMARY KEY,

full\_name varchar(255) NOT NULL,

comission float,

);

CREATE TABLE Apartments (

apartment\_id INT NOT NULL IDENTITY(1,1) PRIMARY KEY,

street\_addres VARCHAR(255) NOT NULL,

apartment INT NOT NULL,

number\_of\_bd INT NOT NULL,

square\_footage FLOAT NOT NULL,

home\_value money NOT NULL,

);

CREATE TABLE Sales\_transactions (

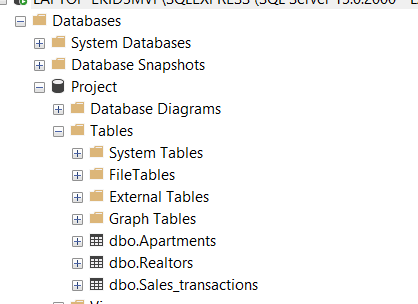
sales\_transaction\_id INT NOT NULL IDENTITY(1,1) PRIMARY KEY,

sale\_date DATE NOT NULL,

realtor\_id INT NOT NULL FOREIGN KEY REFERENCES realtors(realtor\_id ),

apartment\_id INT NOT NULL FOREIGN KEY REFERENCES apartments(apartment\_id),

);



-------------------------------------------------------------------------

-- INSERTING DATA

-------------------------------------------------------------------------

INSERT INTO realtors (full\_name, comission)

VALUES

('Que Foor', 0.02),

('Julie Flouty', 0.12),

('James Sherman', 0.04),

('Raziel Ungar', 0.13),

('Abe Matar', 0.06),

('Philip Watson', 0.023),

('Rumana Jabeen', 0.024),

('David Tapper', 0.038),

('David Martin', 0.03),

('Debbie Wilhelm', 0.06),

('Maximus Reinhardt', 0.05),

('Holly Noto', 0.07);

INSERT INTO Apartments(street\_address, apartment, number\_of\_bd, square\_footage, home\_value)

VALUES

('100 Pierce St', 2, 3, 1250, 498000),

('20 Parkridge Dr', 7, 1, 715, 699000),

('988 Fulton St', 223, 1, 750, 799000),

('100 Pierce St', 3, 4, 1560, 454000),

('100 Pierce St', 4, 2, 980, 356000),

('1332 Palos Verdes Dr', 2, 2, 1500, 940000),

('54 Hilton Head Dr', 80, 3, 1620, 780000),

('5545 Canoga Ave', 223, 2, 1089, 426000),

('2045 4th St', 301, 1, 699, 699000),

('1536 South Ave', 23, 2, 1250, 456000),

('1536 South Ave', 24, 2, 1250, 456000),

('10751 Wilshire Blvd', 256, 1, 954, 325000),

('10751 Wilshire Blvd', 269, 2, 1300, 512000),

('10751 Wilshire Blvd', 218, 4, 2120, 850000),

('1075 W State St', 10, 1, 950, 34800),

('1075 W State St', 16, 2, 1340, 569000),

('1075 W State St', 14, 2, 1320, 560000),

('201 Juniper Springs Dr', 210, 1, 560, 425000),

('6151 Orange St', 118 , 1, 569, 449800),

('6151 Orange St', 125, 3, 1250, 523000),

('6151 Orange St', 124, 4, 1450, 620000),

('941 10th St', 28, 2, 1150, 454000),

('941 10th St', 29, 3, 1440, 567000),

('941 10th St', 30, 2, 1100, 356000),

('941 10th St', 23, 2, 1050, 348000),

('941 10th St', 48, 3, 1540, 620000);

INSERT INTO Sales\_transactions(sale\_date, realtor\_id, apartment\_id)

VALUES

('2020-02-01', 1, 1),

('2020-02-02', 2, 2),

('2020-02-03', 3, 3),

('2020-02-04', 4, 4),

('2020-02-04', 5, 5),

('2020-02-05', 6, 6),

('2020-02-06', 7, 7),

('2020-02-07', 8, 8),

('2020-02-08', 9, 9),

('2020-02-09', 10, 10),

('2020-02-09', 1, 11),

('2020-02-09', 4, 12),

('2020-02-10', 5, 13),

('2020-02-11', 6, 14),

('2020-02-12', 7, 15),

('2020-02-12', 2, 16),

('2020-02-13', 2, 17),

('2020-02-14', 3, 18),

('2020-02-15', 4, 19),

('2020-02-15', 5, 20),

('2020-02-16', 6, 21),

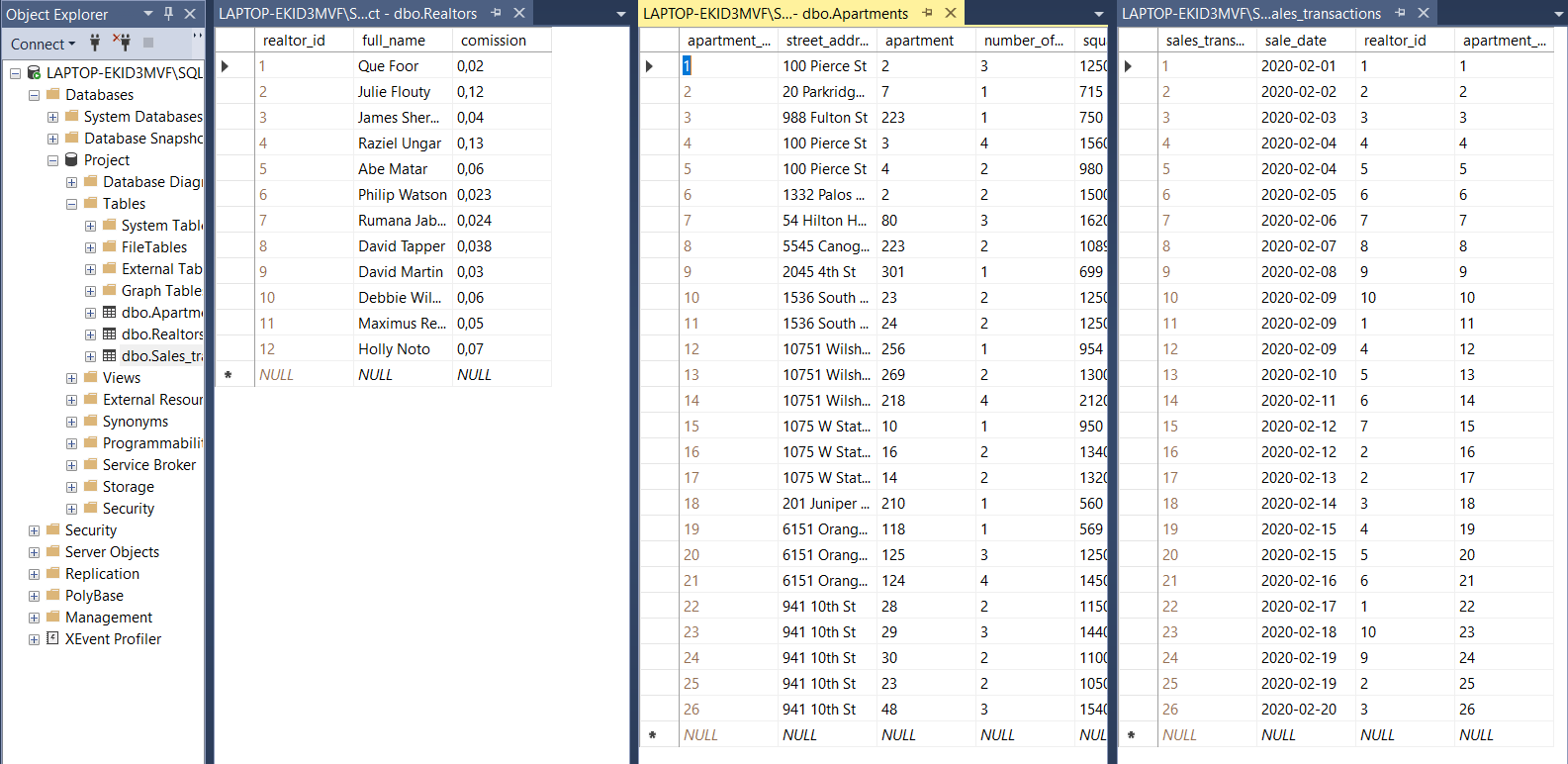
('2020-02-17', 1, 22),

('2020-02-18', 10, 23),

('2020-02-19', 9, 24),

('2020-02-19', 2, 25),

('2020-02-20', 3, 26);



-------------------------------------------------------------------------

-- QUERIES

-------------------------------------------------------------------------

USE Project;

**--------------------------------------------------------------------------------------------**

**-- CREATE**

**--------------------------------------------------------------------------------------------**

--

--Create a new table with information about 3 bedroom's apartments.

--

SELECT apartment\_id AS Three\_bd\_apartments\_id,

street\_adres,

apartment,

number\_of\_bd,

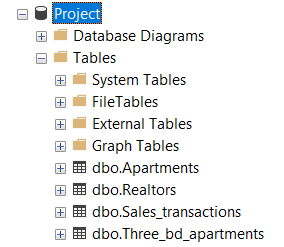
square\_footage,

home\_value

INTO Three\_bd\_apartments

FROM Apartments

WHERE number\_of\_bd=3;



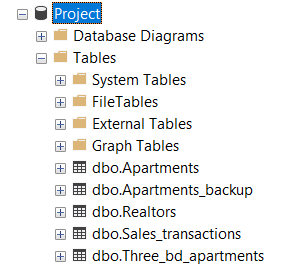
--

-- Create a backup for the table 'Apartment'

--

SELECT \* INTO Apartments\_backup

FROM Apartments;



--------------------------------------------------------------------------------------------

-- READ

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--

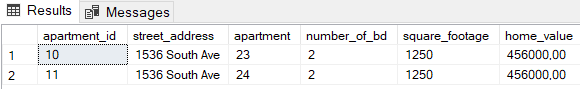
-- Choose from the table `Apartments` only apartments that are located on South avenue and have 2 bd

--

SELECT \*

FROM Apartments

WHERE street\_adres='1536 South Ave' AND number\_of\_bd=2;



--

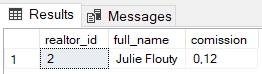
-- Choose from table `Realtors` whose name started with 'J' and who has the commission more than 0.10

--

SELECT \*

FROM Realtors

WHERE full\_name LIKE 'J%' AND comission>0.10;



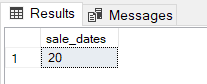
--

-- Calculate how many days are included in the report

--

SELECT COUNT(sale\_date) AS sale\_dates

FROM (SELECT DISTINCT sale\_date FROM Sales\_transactions) AS dist;



--

-- SHOW all realtors except David Martin

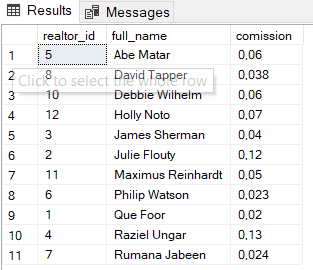
--

SELECT \*

FROM Realtors

WHERE NOT full\_name='David Martin'

ORDER BY full\_name;



--

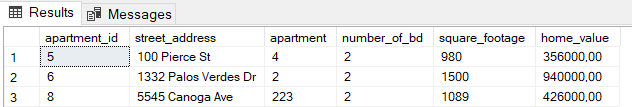
-- Select some apartments which have 2 bedrooms

--

SELECT TOP 3 \*

FROM Apartments

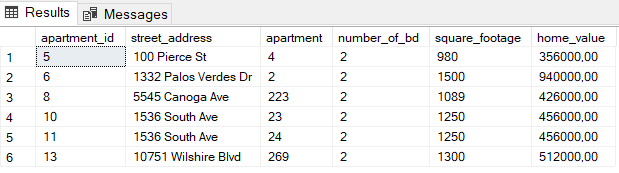
WHERE number\_of\_bd=2;



SELECT TOP 50 PERCENT \*

FROM Apartments

WHERE number\_of\_bd=2;



--

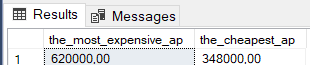
-- Select the most expensive and the cheapest apartments on 10th Street

--

SELECT MAX(Home\_value) as the\_most\_expensive\_ap, MIN(Home\_value) as the\_cheapest\_ap

FROM Apartments

WHERE street\_adres LIKE '%10th ST';



--

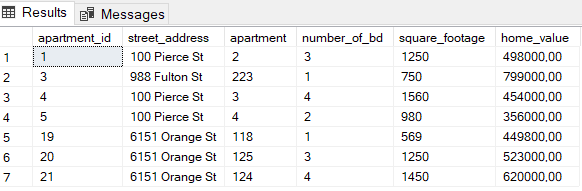
-- Select apartments with specific addresses

--

SELECT \*

FROM Apartments

WHERE street\_adres IN ('100 Pierce St', '6151 Orange St', '988 Fulton St');



--

-- Select apartments , which were sold in between 2020-02-01 and 2020-02-10

--

SELECT a.\*, s.sale\_date

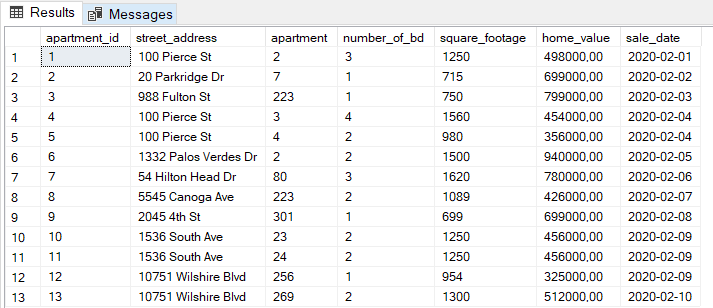
FROM Sales\_transactions AS s

LEFT JOIN Apartments as a

ON s.apartment\_id=a.apartment\_id

WHERE sale\_date BETWEEN '2020-02-01' AND '2020-02-10'

ORDER BY s.sale\_date;



--

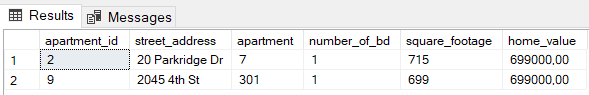
-- Choose 1 bedroom apartments that value in range from 500000 to 700000

--

SELECT \*

FROM Apartments

WHERE number\_of\_bd=1 AND home\_value>500000 and home\_value<700000;



--

-- Calculate realtor's profit for each sales transaction.

--

SELECT r.full\_name, s.sale\_date, a.home\_value, r.comission, a.home\_value\*r.comission as profit

FROM Apartments AS a

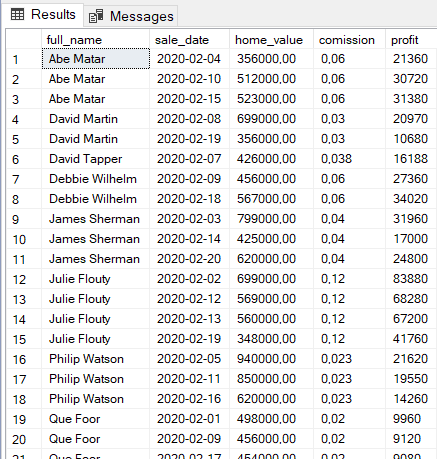
JOIN Sales\_transactions AS s

ON a.apartment\_id=s.apartment\_id

JOIN Realtors AS r

ON s.realtor\_id=r.realtor\_id

ORDER BY r.full\_name;



--

-- Combine apartments by number of bedrooms and calculate average square footage for each group

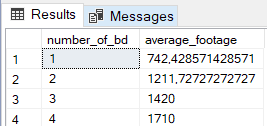
--

SELECT number\_of\_bd, AVG(square\_footage) as average\_footage

FROM Apartments

GROUP BY number\_of\_bd

ORDER BY number\_of\_bd;



--

-- Combine apartments by square footage and calculate minimum and maximum number of bedrooms for each group.

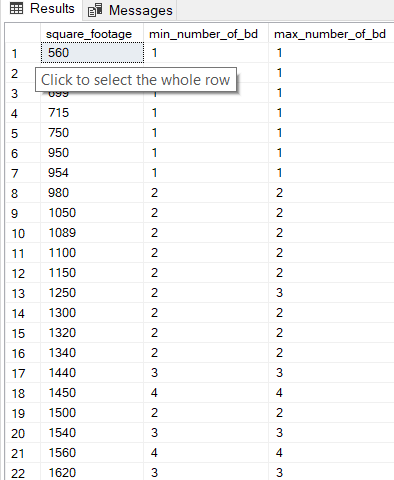
--

SELECT square\_footage, MIN(number\_of\_bd) as min\_number\_of\_bd, MAX(number\_of\_bd) as max\_number\_of\_bd

FROM Apartments

GROUP BY square\_footage

ORDER BY square\_footage;



--

--Find realtors who have two and more transactions.

--

SELECT r.full\_name, COUNT(s.sales\_transaction\_id) AS number\_of\_transactions

FROM Sales\_transactions AS s

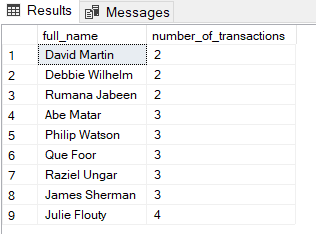
INNER JOIN Realtors AS r

ON s.realtor\_id=r.realtor\_id

GROUP BY r.full\_name

HAVING COUNT(s.sales\_transaction\_id)=2 OR COUNT(s.sales\_transaction\_id)>2

ORDER BY number\_of\_transactions;



--

--Find realtors who sold at least one 3-bd apartment.

--

SELECT r.full\_name,COUNT(s.sales\_transaction\_id) AS num\_of\_sold\_ap

FROM Realtors AS r

INNER JOIN Sales\_transactions AS s

ON r.realtor\_id=s.sales\_transaction\_id

WHERE r.realtor\_id = ANY (SELECT s.realtor\_id

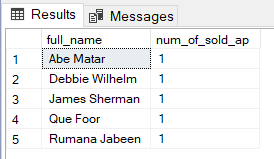
FROM Sales\_transactions AS s

LEFT JOIN Apartments AS a

ON s.apartment\_id=a.apartment\_id

WHERE a.number\_of\_bd =3)

GROUP BY r.full\_name;



--------------------------------------------------------------------------------------------

-- UPDATE

--------------------------------------------------------------------------------------------

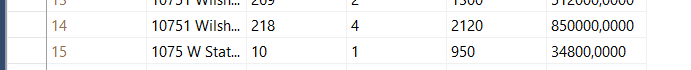
--

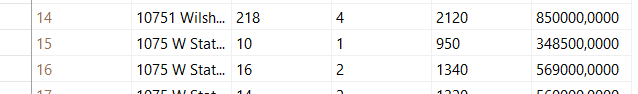
--Update the row.

--

UPDATE Apartments SET home\_value=348500

WHERE home\_value=34800;





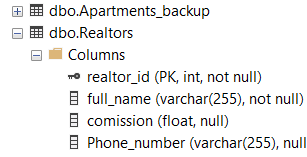
--

--Add column 'Phone column' to the table 'Realtors'.

--

ALTER TABLE Realtors

ADD Phone\_number varchar(255);



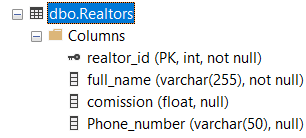
--

--Change the data type of the column 'Phone number' the table 'Realtors'.

--

ALTER TABLE Realtors

ALTER COLUMN Phone\_number varchar(50);



--------------------------------------------------------------------------------------------

-- DELETE

--------------------------------------------------------------------------------------------

--

-- Delete rows in the table 'Apartment' which is located on W State street.

--

DELETE

FROM Apartments\_backup

WHERE street\_adres LIKE '%State%';

--

--Delete the column 'Phone number' in the table 'Realtors'.

--

ALTER TABLE Realtors

DROP COLUMN Phone\_number;

--

--Delete the data inside the table 'Three\_bd\_apartments'.

--

TRUNCATE TABLE Three\_bd\_apartments;

--

--Delete the table 'Three\_bd\_apartments'.

--

DROP TABLE Three\_bd\_apartments;

--

--Drop the existing SQL database 'Project'

--

DROP DATABASE Project;